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V1 – 2/15

Hitachi Advanced System Controller
and Yutaki Heat Pump
Technical Quick Reference guide

General

This manual is provided by Hitachi Air Conditioning Europe (HACE) for reference use by qualified installers of the Yutaki range of heat pumps. Qualified installers will have attended the Hitachi recognised training course before installing any Hitachi product. Non-attendance of such a course in a recognised Hitachi training centre may void the warranty on any products supplied.

This manual does not replace the service manual which is referred to within these pages. This manual provides guidance only as to the key information about the Advanced System Controller (ASC) and Yutaki heat pump settings and error messages.

This manual refers to the Yutaki M series heat pump service manual SMGB0090 rev.0 – 01/2014

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All regulations for water usage, energy efficiency, electrical safety and others as applicable to the installation in force at the time of the installation must be adhered to and all such regulations shall take precedence over any advice and inference given herein.

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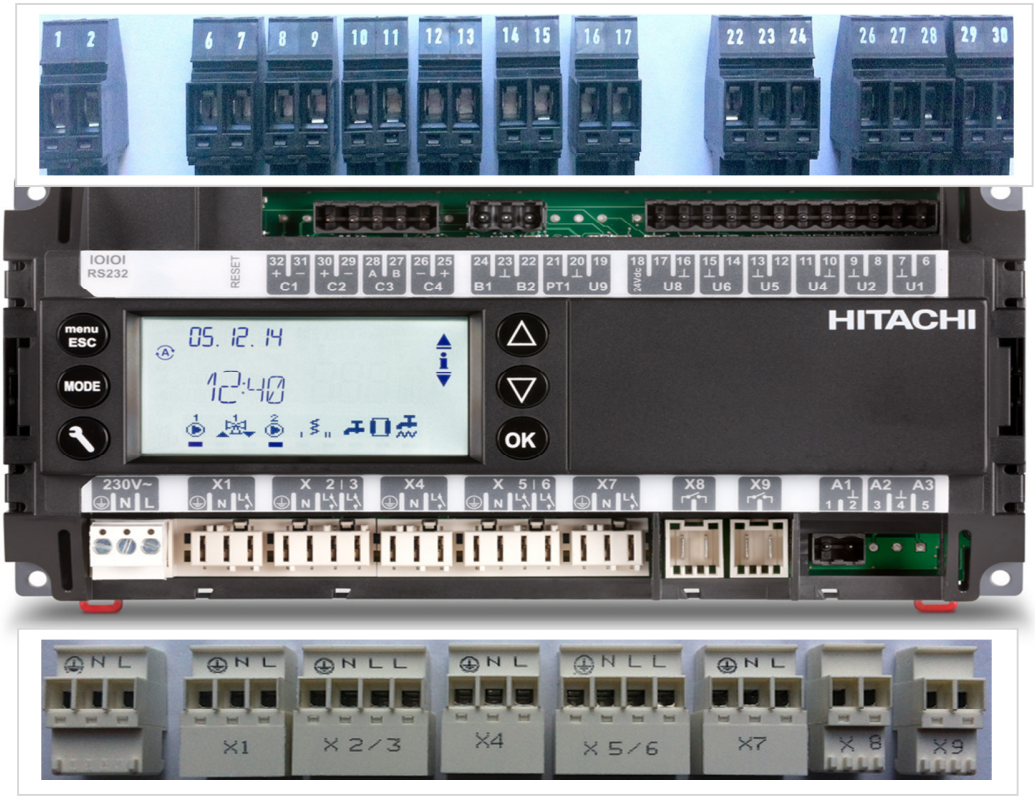
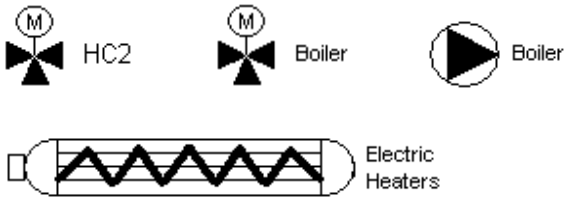
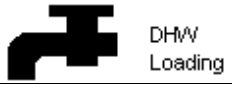
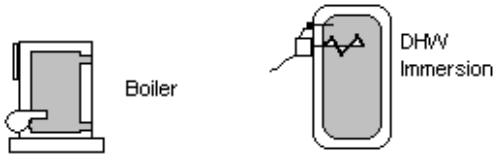
Advanced System Controller hardware.

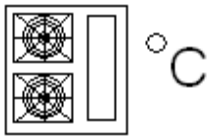
The controller is supplied with 2 sets of connectors which are uniquely numbered to avoid confusion when making connections. The unit is also supplied with clip on guides for routing cables and safety covers which can be clipped into place after installation. Space must be left above and below the controller for the safety covers to be fitted (if required). The controller can be mounted using the fixing holes at each corner or clipped onto a standard DIN rail. The controller and connectors are shown below.

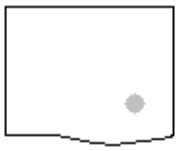
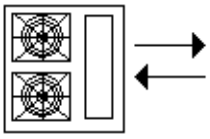


The controller connection functions are outlined in the table below:

Power Terminals	**Connection** **Note: Total maximum connected load = 10 Amps**	**Function**
230v ~	Live, Neutral and Earth from 13A switched fused outlet adjacent to controller	Mains power to controller
X1	Live, Neutral and Earth to Heating circulation pump 	Heating water circulation HC1
X2:X3	Live x 2, Neutral and Earth to heating circuit 1 mixing valve 	Optional control function where the primary heating circuit water temperature may be set below the stored buffer temperature
X4	Live, Neutral and Earth to heating circuit 2 circulation pump 	Optional control function where a secondary heating circuit is controlled independently from the main heating circuit
X5:X6	Live x 2, Neutral and Earth to heating circuit 2 mixing valve, external boiler mixing/bypass valve, external boiler pump (X5 only) or control relay of electric heater(s) in the heating circuit. **NOT** to be used to power the electric heaters directly. **Note: 3Amps Max** 	Optional function depending on system configuration. May be used to control the temperature of a secondary heating circuit, control the temperature of water from an external boiler or provide an enabling signal to an electric heater. **Note**: This output is ***NOT*** designed to be connected directly to an electric heater which would result in catastrophic damage to the controller
X7	Live, Neutral and Earth to Domestic hot water loading pump or valve 	Controls the diversion of water from the heat pump to the Domestic hot water cylinder main heating coil
X8	Volt free (isolated) contact to Heat Pump 	Heat pump enable. Note this is a relay contact only switching a mains voltage signal from the heat pump. Safety isolation of the heat pump is essential before carrying out maintenance of this connection.

X9	Volt free (isolated) contact to boiler Or Volt free (isolated) contact to switch DHW immersion heater relay. **NOT** to be used to power the Immersion heater directly. **3 Amps Max** 	Optional function of boiler enable. Note this is a relay contact only switching a signal from the boiler or DHW immersion heater relay. It may be either mains voltage or extra low voltage. Safety isolation of the boiler or immersion heater relay supply is essential before carrying out maintenance of this connection. **Note**: This output is ***NOT*** designed to be connected directly to an electric heater which would result in catastrophic damage to the controller

Control Terminal Designation (and number)	**Connection**	**Function**
A1 (1 & 2)	0 – 20mA signal to Heat Pump 	Control signal sourced from heat Pump which varies the Heat Pump desired output temperature in accordance with the current set by the controller

Communication Terminal Designation (and number)	**Connection**	**Function**
C1	Not available on this controller	No function
C2 (29 & 30)	RF Receiver 	Communication from the room unit to the controller via the RF Receiver. This can be connected either way round (not polarity sensitive)
C3 (27 & 28)	RS485 to Heat Pump (Polarity sensitive) 	Heat Pump communication channel. This must be made correctly in order to enable full communication between the heat pump and the controller. Incorrect connection may cause

		damage and/or prevent correct operation of the Heat Pump.
C4 (26) Do not connect	Not available on this controller	No function

Switch input Terminal Designation (and number)	**Connection**	**Function**
B1 (23 & 24) Terminal 23 is common with function B2	Tariff / Timer input from volt free contact	Optional function to inhibit hot water loading. Can otherwise be used to disable heat pump for load shedding applications
B2 (22 & 23) Terminal 23 is common with function B1	Domestic Hot Water boost input from volt free momentary contact	Optional function to provide a boost to hot water production outside of normal loading times. This is a one-time operation and heats the DHW cylinder until the target temperature is reached and then reverts to normal heating mode

Temperature Sensor Terminal Designation (and number)	**Connection** Note: Temperature sensor inputs are not polarity sensitive and can be connected either way round	**Function**
U1 (6 & 7)	System flow temperature	Measures the temperature of heating system water in the buffer
U2 (8 & 9)	HC1 flow temperature	Primary heating circuit flow temperature, positioned after HC1 mixing valve
U3	Not available on this controller	No function
U4 (10 & 11)	HC2 flow temperature	Secondary heating circuit flow temperature, positioned after HC2 mixing valve
U5 (12 & 13)	Domestic Hot water temperature	Measures the temperature of water in the DHW cylinder. Note: it is essential that this sensor makes good thermal contact with the cylinder and is mechanically sound. Improper fitting may render space heating function inoperative due to perceived hot water demand
U6 (14 & 15)	Boiler flow temperature	Detects the temperature of boiler source water
U7	Not available on this controller	No function
U8 (16 & 17)	Outside sensor	Optional sensor which may be used to augment the heat pump sensor for detecting outside temperature. Must be placed out of direct sunlight and preferably on a North facing wall.

Advanced System Controller operation

The controller is organised by a set of menus that are available at three levels. The three levels of access are User, Installer and Service.

1. User
   At the user level, pressing the menu button allows access to language, setting of date and time and system information as well as any active alarms. Until the heat pump is switched on, there will be alarms, ignore these for the time being.

2. Installer – Pass-code 3636
   At the installer level, all the configurable elements that need to be set can be accessed. To access Installer settings, press and hold the spanner icon for 5 seconds, enter the pass-code and a single spanner icon will appear at the bottom left corner of the screen.

   To exit Installer mode, press and release the ESC button.

3. Service – Pass-code 6565
   The Service level gives access to system parameters that do not normally need to be altered by installation personnel. To access Service settings, press and hold the spanner icon for 5 seconds, enter the pass-code and a double spanner icon will appear at the bottom left corner of the screen.

   To exit Service mode, press and release the ESC button.

System Parameters

During initial power up and after a rest operation, the installer has the option of setting the system configuration. This is done once only and cannot be changed without a manual reset of the system using the rest button on the top left of the controller.

When powering the controller for the first time, the controller will respond with a Reset option RST 1, (Press OK) and will allow setting of the language (default English) and the system Configuration. To restore factory settings at any other time press and release the reset button on the top left of the controller using a pen tip or small screwdriver.

The controller has a number of other parameters that can be viewed through the information menus; these include temperatures (T), K values and C values. However, when configuring a system, only P values are changed. Some parameters may only be enabled for access after others, for example, it will not be possible to set loading times for hot water if the hot water function has not already been enabled elsewhere. The Parameter list (P) is not organised in a simple numerical order, but accessed by group function.

There are 8 menus and many sub menus as follows

Menu	**Sub-menu**	**Sub-sub-menu**	**Function**	**Parameters**
00	n/a	n/a	Current active alarms	See Controller fault codes later in this section
General configuration				
01	1 - 4	n/a	DHW loading times	
02	n/a	n/a	Date and time setting	
03	00	n/a	Language	
03	01	n/a	Heating circuit 1 (HC1) type	P101
03	02	n/a	Heating circuit 2 (HC2) type	P201
03	03	n/a	Domestic Hot Water (DHW) type	P301
03	04	n/a	DHW electric heater	P310
03	05	n/a	Boiler manual release after HP fault (allows boiler to keep system operating in the event of a Heat Pump fault)	P008
03	06	n/a	Electric heater manual release after HP fault (allows electric heater to keep system operating in the event of a Heat Pump fault)	P009
03	07	n/a	Summer / Winter changeover enable	P010
03	08	n/a	12 / 24 Hour clock display selection	P011

System settings				
Menu	**Sub-menu**	**Sub-sub-menu**	**Function**	**Parameters**
04	00	00	Frost protection temperature	P001
04	00	01	Frost protection minimum supply temperature	P002
04	00	02	Summer switch off temperature	P003
04	00	03	Pump / valve seizure protection (kicks pumps / valves in summer to prevent seizure outside heating season)	P004
04	00	04	Outside sensor connected to controller	P006
04	00	05	Bivalent alternative operation	P007
04	00	06	Average outside temperature reset	P012
Heating Circuit 1 (HC1) Settings				
04	01	00	HC1 OTC gradient (Heat curve)	P102
04	01	01	HC1 Heating emitter type (UFH etc)	P103
04	01	02	HC1 Room compensation factor	P104
04	01	03	HC1 Minimum supply set-point	P105
04	01	04	HC1 Maximum supply set -point	P106
04	01	05	HC1 Pump over-run time	P107
04	01	06	HC1 Mixing valve motor run time (see valve manufactures data)	P108
04	01	09	HC1 Mixing Over-temperature limit offset (what is this ??)	P111
04	01	10	HC1 Automatic no-load function	P112
04	01	11	HC1 Screed drying function	P113
04	01	12	HC1 Heating curve parallel shift	P114
04	01	13	HC1 Auto no load function depending on room set point	P115
04	01	14	HC1 Auto no load function pump off time	P116
04	01	15	HC1 Auto no load function pump on time	P117
04	01	16	HC1 Auto no load function differential	P118

Heating Circuit 2 (HC2) Settings				
Menu	**Sub-menu**	**Sub-sub-menu**	**Function**	**Parameters**
04	02	00	HC2 OTC gradient (heat curve)	P202
04	02	01	HC2 Heating emitter type (UFH etc)	P203
04	02	02	HC2 Room compensation factor	P204
04	02	03	HC2 Minimum supply set-point	P205
04	02	04	HC2Maximum supply set-point	P206
04	02	05	HC2Pump over-run time	P207
04	02	06	HC2Mixing valve motor run-time (See valve manufacturers data)	P208
04	02	09	HC2 Mixing over temperature limit offset (What is this ??)	P211
04	02	10	HC2 Automatic no-load function	P212
04	02	11	HC2 Screed drying function	P213
04	02	12	HC2 Heating curve parallel shift	P214
04	02	13	HC2 Auto no load function depending on room set point	P215
04	02	14	HC2 Auto no load function pump off time	P216
04	02	15	HC2 Auto no load function pump on time	P217
04	02	16	HC2 Auto no load function differential	P218
Domestic Hot Water (DHW) Settings				
04	03	00	DHW Set-point	P302
04	03	01	DHW Differential	P303
04	03	02	DHW Supply offset	P304
04	03	04	DHW Maximum DHW loading time	P306
04	03	05	DHW Electric heater waiting time	P307
04	03	06	DHW Maximum time HP high set point	P308
04	03	07	DHW Anti-legionella protection	P309
04	03	08	DHW Anti legionella set-point	P311
04	03	09	DHW Anti legionella operation day	P312
04	03	10	DHW Anti legionella start time	P313
04	03	11	DHW Anti legionella activation period	P314
04	03	14	DHW Anti legionella restart interval	P315
04	03	15	DHW Defrost control	P316
04	03	16	DHW Cycle time	P317

Heat Pump Settings				
Menu	**Sub-menu**	**Sub-sub-menu**	**Function**	**Parameters**
04	04	00	Minimum outside temperature for heat pump operation	P601
04	04	09	Heat pump sensor offset	P610
04	04	11	Tariff / Timer blocking input configuration	P611
Boiler operation				
04	05	00	Maximum outside temperature for boiler operation	P701
04	05	03	Boiler waiting time	P704
04	05	04	Boiler minimum off time	P705
04	05	05	Boiler minimum on time	P706
04	05	06	Bypass / Mixing valve motor run-time (See valve manufacturers data)	P707
04	05	07	Bypass / Mixing valve difference threshold	P708
04	05	08	Bypass / Mixing valve opening delay time	P709
04	05	12	Boiler pump over-run time	P713
04	05	13	Boiler heat boost enable	P714
04	05	14	Boiler heat boost set-point	P715
04	05	15	Boiler auto operation on heat pump fault	P716
Electric Heater Settings				
04	06	00	Maximum outside temperature for electric heater operation	P801
04	06	04	Electric heater waiting time	P805
04	06	06	Electric heater one step function	P807
04	06	07	Electric heater heat boost enable	P808
04	06	08	Electric heater heat boost set-point	P809
04	06	09	Electric heater auto operation on heat pump fault	P810

System Information only, these parameters cannot be changed in this menu				
Menu	**Sub-menu**	**Sub-sub-menu**	**Function**	**Parameters**
05	00	00	Configuration setting	C001
05	00	01	Application Version	A001
05	00	02	System supply temperature	T001
05	00	03	Outside temperature	T002
05	00	04	3 Hour average outside temperature	T003
05	00	05	24 Hour average outside temperature	T004
05	00	06	System supply set-point	T005
05	00	07	Heating source	K001
05	00	08	Frost protection status	K002
05	00	09	Auto summer off status	K003
05	00	10	Operation mode	K004
Heating Circuit 1 Information only, these parameters cannot be changed in this menu				
05	01	02	HC1 Supply set-point	T103
05	01	03	HC1 Screed set-point	T104
05	01	04	HC1 OTC Supply set-point	T105
05	01	07	HC1 Status	K101
05	01	08	HC1 Operation mode	K102
05	01	09	HC1 Auto no load	K103
05	01	11	HC1 Room unit status	K106
Heating Circuit 2 Information only, these parameters cannot be changed in this menu				
05	02	02	HC2 supply set-point	T203
05	02	07	HC2 Enabled status	K201
05	02	08	HC2 Operation mode	K202
05	02	09	HC2 Auto no load	K203
05	02	11	HC2 Room unit status	K206
Domestic Hot Water (DHW) Information only, these parameters cannot be changed in this menu				
05	03	00	DHW Temperature	T301
05	03	01	DHW Supply set-point	T302
05	03	02	DHW Heat Pump Max temperature	T303
05	03	03	DHW Control set-point	T304
05	03	04	DHW Loading status	K301
05	03	05	DHW Control enabled / disabled	K302
05	03	06	DHW Operation mode	K303
05	03	07	DHW Anti legionella	K304
05	03	08	DHW max time mode	K305
05	03	09	DHW Electric heater control enabled / disabled	K306
05	03	10	DHW Blocking status	K307

Heat Pump Information only, these parameters cannot be changed in this menu				
05	04	00	HP supply set-point	T601
05	04	02	HP Inlet temperature	T603
05	04	04	HP Control status	K601
05	04	05	HP Max. Inlet protection status	K602
05	04	06	HP Blocking status	K603
05	04	07	HP Current limit status	K604
05	04	08	HP Thermo off status	K605
05	04	09	HP Compressor guard status	K606
05	04	10	HP Feedback pump status	K607
05	04	11	HP Protection status	K608
05	04	12	HP Fan manual operation status	K609
05	04	13	HP On/Off status	K610
05	04	14	HP Unit alarm status	K611
05	04	15	HP individual alarm status	K612
05	04	16	HP defrost status	K613
05	04	17	HP Compressor frequency	K614
05	04	18	HP Discharge pressure	K615
05	04	19	HP Suction pressure	K616
05	04	20	HP Discharge gas temperature	K617
05	04	21	HP Suction gas temperature	K618
05	04	22	HP Liquid temperature	K619
05	04	23	HP Evaporating temperature	K620
05	04	24	HP Suction temperature	K621
05	04	25	HP Individual alarm set	K622
05	04	26	HP unit alarm set	K623
Boiler Information only, these parameters cannot be changed in this menu				
05	05	00	Boiler supply temperature	T701
05	05	01	Boiler supply set-point	T702
05	05	04	Boiler control status	K701
05	05	05	Bypass /Mixing valve control Enabled / disabled	K702

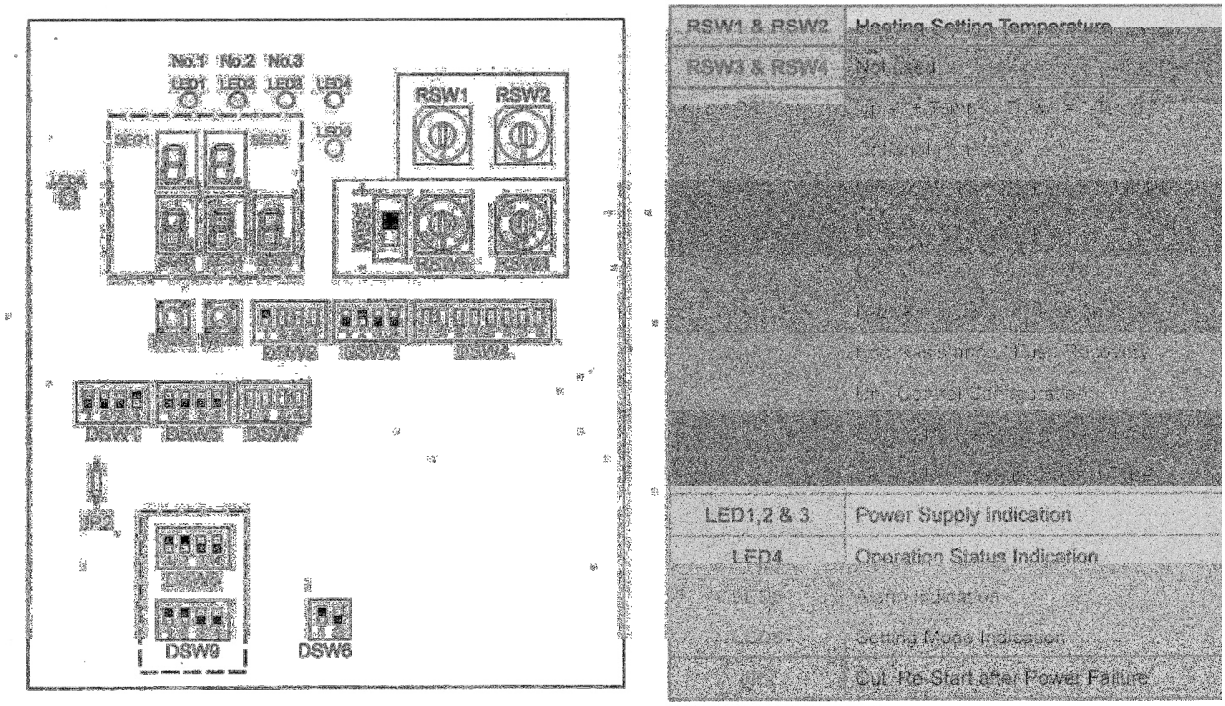
Electric Heater Information only, these parameters cannot be changed in this menu				
Menu	**Sub-menu**	**Sub-sub-menu**	**Function**	**Parameters**
05	06	00	Electric heater supply set-point	T801
05	06	02	Electric heater control status	K801
Alarm History				
06	n/a	n/a	Alarms by date and time	
Controller Input Status				
07	00	n/a	System supply temperature	U1
07	06	n/a	Blocking (Tariff / Timer) input status	B1
07	08	n/a	Set all inputs to Auto status	K901
Controller Output Status and manual relay set N.B. Settings will vary depending on Configuration				
08	00	n/a	HC1 Pump On / Off status	X1
08	01	n/a	HC1 Mixing valve	X2:X3
08	02	n/a	HC2 pump	X4
08	04	n/a	Electric Heater stage 1status	X5
08	05	n/a	Electric Heater stage 2 status	X6
08	05	n/a	Bypass mixing valve status	X5:X6
08	06	n/a	DHW Pump	X7
08	07	n/a	Heat Pump On /Off status	X8
08	08	n/a	Heat Pump 0 – 20mA signal status	A1
08	12	n/a	Set all outputs to Auto	K902

Advanced System Controller Fault Codes

Code	Description	System Behaviour
F01	Outside temperate sensor faulty	System operates assuming 10°C
F02	DHW sensor fault	DHW disabled
F03	HC1 sensor fault	HC1 disabled
F04	HC2 sensor fault	HC2 disabled
F05	Boiler sensor fault	Boiler disabled
F06	System supply sensor fault	System heat sources disabled
F07	RF receiver communications failure	Last known temperate set points are used
F08	0-20mA signal connection fault	System heat sources disabled
F09	Heat pump communication failure	System heat sources disabled Note: Will also cause F01 and F14 fault codes
F10	HC1 over temperature	HC1 disabled
F11	HC2 over temperature	HC2 disabled
F12	Heat pump fault	System heat sources disabled unless Auto Release is set for boiler or electric heater
F13	RF Communication failure	See F07
F14	Heat Pump max inlet temperature exceeded	Heat pump disabled
F15	DHW Anti legionella failure	P315 time has expired. Normal DHW control only
F16	HP Individual alarm	All heat sources disabled
F17	HP Unit alarm	All heat sources disabled

Heat pump DIP switch settings

The PCB in the outdoor unit is operated with different dip switches, rotary switches and push switches.



◆ **LED indication**

LED1, LED2 and LED3: Power supply indication

Status	LED1	LED2	LED3
Power supply ON	ON	OFF	OFF
Power supply OFF	OFF	OFF	OFF
		Not available	

LED4: Operation status indication

Status	LED4
Unit stopped	OFF
Unit running	ON
Alarm	OFF

LED5: Alarm indication

Status	LED5
Normal	OFF
Alarm	ON

LED6: Setting mode indication

Status	LED6
Setting mode disable	OFF
Setting mode enable (DSW1#3: ON)	ON

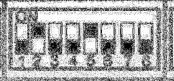
◆ **Function of the of DIP switches and RSW switches**

NOTE

- The mark "▼" indicates the position of dips switches.
- No mark "▼" indicates the position is not affecting.
- Keep the same setting status between slave unit and master unit.

CAUTION

Before setting dips switches, first turn the power source off and then set the position of the dips switches. In case of setting the switches without turning the power source off, the contents of the setting are invalid.

DSW	R410A-3 AVHW1	R410A-3 AVHW-HW	R410A-4 AVHW-HW	R410A-5 AVHW-HW	R410A-6 AVHW-HW	R410A-8 AHW-HW	R410A-8 AHW-HW
DSW1							
DSW2							
DSW3							
DSW4							
DSW5							
DSW6							
DSW7							

DSW8 = DSW9 (For all units)	

◆ **Jumpers**

Jumper lead setting (JP2): Automatic restart after power failure

Keep the same status as before. Setting before shipment:

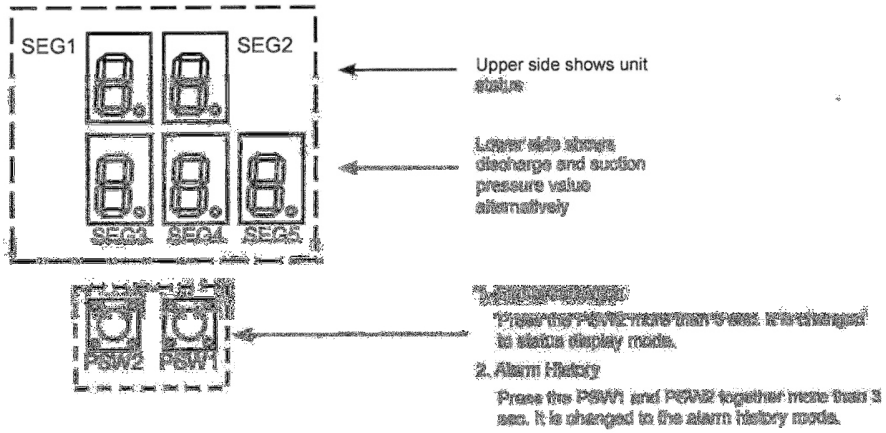
JP2
1

0 = Open; 1 = Short circuit

The function selection using the jumper lead setting is shown in the table below.

Setting	Function	Details
0	Enable	If this function is 'Enable', in case of power failure the unit will restart automatically once the power is recovered
1	Disable	

Yutaki LED Display information and error codes



General indication

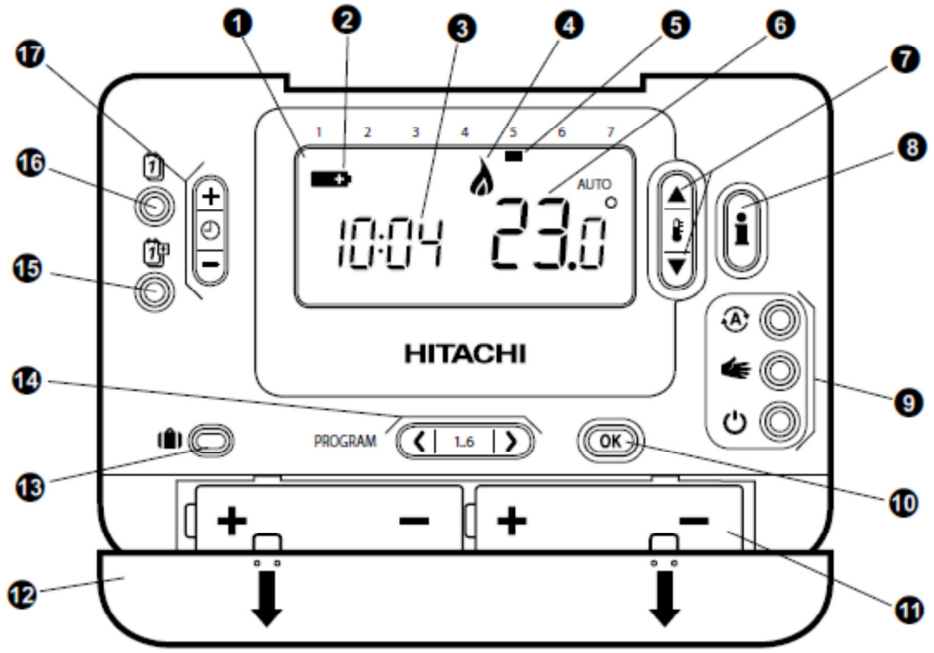
General indication	Contents
88	Proceeding initialization
88	Power ON (During unit stoppage)
PU	Pump operation (During unit stoppage)
PU	Waiting of pump feedback (During unit operation)
oF	Stoppage by Thermo-OFF
HE	Heating operation (Normal operation)
HE↔P0	Heating operation (Activation of forced compressor frequency control due to low pressure difference:forced up)
HE↔P1	Heating operation (Activation of forced compressor frequency control due to high pressure difference:forced down)
HE↔P2	Heating operation (Activation of forced compressor frequency control due to excessively high discharge pressure: forced down)
HE↔P3	Heating operation (Activation of forced compressor frequency control due to excessively high current :forced down)
HE↔P4	Heating operation (Activation of forced compressor frequency control due to excessively high inverter fin temperature: forced down)
P-↔06	Retry operation (by alarm 02-91, t1)
P-↔11	Retry operation (by alarm 02-e1)
P-↔12	Retry operation (by alarm 02-h1)
P-↔17	Retry operation (by alarm 51, 52, 53, 54)
P-↔18	Retry operation (by alarm 04, 06)
EQ	Initializing electronic expansion valve
Fo	Fan manual operation

Alarm indication	Content
02↔H 1	Activation of high pressure switch
02↔h 1	Activation of protection control for excessively high pressure
02↔L 1	Activation of low pressure control
02↔E 1	Excessively low pressure difference
02↔6 1	Excessively high discharge gas temperature
02↔9 1	Excessively low temperature of heat exchanger refrigerant inlet
02↔E 1	Excessively low suction gas temperature
04	Abnormal transmission between Inverter PCB and Main PCB
05	Abnormality of Power Supply Phase
06	Excessively low voltage or excessively high voltage for the inverter
11	Failure of water inlet temperature thermistor
12	Failure of water outlet temperature thermistor
13	Activation of freeze protection control (water inlet)
02↔ 13	Activation of freeze protection control (water outlet)
14	Excessively high water temperature (compressor running)
21	Failure of refrigerant evaporating temperature thermistor (Open/Short)
22	Failure of ambient temperature thermistor (Open/Short)
23	Failure of discharge gas temperature thermistor (Open/Short)
24	Failure of refrigerant liquid temperature thermistor (Open/Short)
26	Failure of suction gas temperature thermistor (Open/Short)
27	Failure of discharge gas pressure sensor (Open/Short)
28	Failure of suction gas pressure sensor (Open/Short)
30	Incorrect PCB Setting
40	Incorrect PCB operation
51	Abnormal operation of the current sensor
52	Activation of protection for inverter instantaneous over current
53	Transistor module protection activation
54	Increase in the inverter fin temperature
57	Abnormality of fan motor protection
5P	No feedback signal from water pump
6E	Cooler water failure (this alarm is not available in this unit)
6C	Condenser water failure (this alarm is not available in this unit)
PH(blinking)	Excessively high water temperature (compressor stop)
FA	Failure of fan motor (MF1)
Fb	Failure of fan motor (MF2)

Room Control Unit – Setup Instructions

The Hitachi ATW-RTU-02 room control unit is a programmable thermostat that controls the heating system.

- **Controls layout**



❶	LCD screen	❼	Temperature change buttons	⓭	Holiday function button
❷	Battery low indicator	❽	Temperature enquiry button	⓮	Program buttons
❸	Time display	❾	Operating mode buttons	⓯	Copy day button
❹	Burner on indicator	❿	Green OK button	⓰	Set date/Day button
❺	Day indicator	⓫	Battery compartment	⓱	Time change buttons
❻	Temperature display	⓬	Battery cover		

The room control unit is wireless and is required to be binded with the RF Receiver – Please see below:

5.9.6 Binding / Rebinding procedure

The binding operation described below is required if:

- Any of the system components (Room Unit or RF Receiver) are replaced.
- The RF Receiver has incorrect or no binding data stored (e.g. when pre-bound system pack components have been mismatched).

NOTE

During the binding procedure keep approximately 1m distance between the Room Unit and the RF Receiver.

To bind/rebind:

1 Hold button on RF Receiver for 15 seconds. LED will flash red 0.1 sec ON, and 0.9 sec OFF.
2 Hold button on RF Receiver for 5 seconds. LED will flash red for 0.5 sec ON, and 0.5 sec OFF.
3 Press the ⏻ button on the Room Unit.
4 Hold ▲, ▼ and ◁ buttons for 2 seconds. Display will show "InSt CO". The boiler and RF signal icons will be displayed.
5 Press the green OK button.
6 When Red LED on the RF Receiver goes off, the devices are bound.
7 If binding is unsuccessful, then the LED will stay on. In this case, move the Room Unit and repeat the procedure from the beginning.
8 The LED on the RF Receiver will flash green every 10 seconds to indicate that the device is live.

The unit has 6 time zones to control your heating system. The default settings are shown below:

Monday to Friday	Period	1	2	3	4	5	6
(Day 1 to 5)	Time	6:30	8:00	12:00	14:00	18:00	22:30
	Temperature	21°C	18°C	21°C	18°C	21°C	16°C

Saturday to Sunday	Period	1	2	3	4	5	6
(Day 6 to 7)	Time	8:00	10:00	12:00	14:00	18:00	23:00
	Temperature	21°C	21°C	21°C	21°C	21°C	16°C

It is recommended for times when you are in the property, that the operating temperature is set for 21°C. For night time set-back this is reduced to 16°C and for times when you are away from the property, please use a temperature of 18°C.

At any time, the temperature can be manually changed using the up or down arrows above and below the thermostat sign.

Setting up the controller:

First set the time:

Press the + part of the button where a clock face is shown (Number 17 on the Controls Layout picture). You can now use the + and – buttons to adjust the time of day. Press OK to set.

To set up the time zones and temperatures:

Press the right arrow button on the bottom of the controller showing 1...6. This brings up the first control zone. Set this for the temperature you require to wake up to in the morning i.e. 6.30am and 21°C. First select the time by using the + and – symbols on the clock face button and press OK. Once the time has been set you can now adjust the temperature by using the up and down arrows on the temperature button – Press OK which takes you to program 2.

Now select your time and temperature for program 2 as above and complete for all 6 programs.

On the right hand side of the controller you have three buttons. An A with a circle around it is for Auto mode. Please select this button for the above programs to work.

The Hand button below the Auto mode button is for Manual mode. Please select this mode if you require to manually control the temperature.

The button below the manual mode button is the power of or standby button. This should only be used in the summer when no heating is required.

Please refer to the Yutaki-M System Manual for more detailed instructions.